

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 July 2003 (24.07.2003)

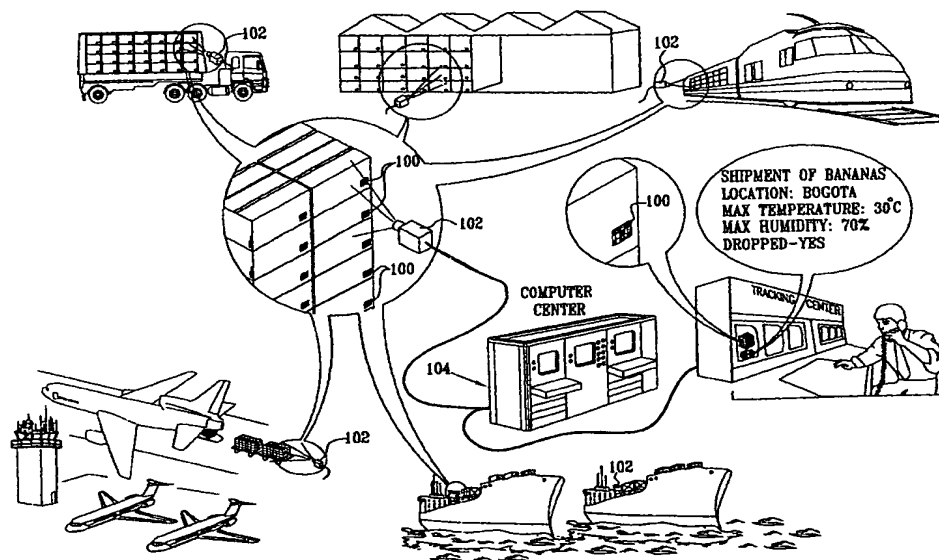
PCT

(10) International Publication Number
WO 2003/060626 A3

- (51) International Patent Classification⁷: H04N 5/225 (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (21) International Application Number: PCT/IL2003/000045
- (22) International Filing Date: 16 January 2003 (16.01.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 10/052,427 18 January 2002 (18.01.2002) US
- (71) Applicant (*for all designated States except US*): IMAGEID LTD. [IL/IL]; Amal Street 11, 48092 Rosh Ha'ayin (IL).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): SHNIBERG, Moti [IL/IL]; P.O. Box 603, 44814 Elkannah (IL). NEMET, Yaron [IL/IL]; P.O. Box 183, 44856 Kedumim (IL). SALI, Erez [IL/IL]; Hadagan Street 11, Savion 56505 (IL).
- (74) Agents: SANFORD T. COLB & CO. et al.; P.O. Box 2273, 76122 Rehovot (IL).
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 31 December 2003

[Continued on next page]

(54) Title: SYSTEM AND METHODOLOGY FOR TRACKING OBJECTS USING VISUALLY SENSIBLE INDICATORS



(57) Abstract: A system for tracking objects (10, 30, 502) including visually sensible indicators (12, 32, 74, 100, 238, 300, 400, 504, 600) on objects being tracked, at least one imager (14, 34, 102, 200, 210, 220, 222, 230, 234, 500) capturing images of the objects being tracked which images also show the visually sensible indicators and at least one image processor (16, 36, 104, 202, 212, 224, 236, 506) receiving outputs of the at least one imager and extracting from the outputs coded information indicated by the visually sensible indicators, the coded information being viewable on a display (18, 38), either locally or at a remote location (20, 40, 204, 214, 226, 240).

Best Available Copy

WO 2003/060626 A3

WO 2003/060626 A3



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Best Available Copy

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL03/00045

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04N 5/225
US CL : 348/169; 235/385,469,494; 340/5.92

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : Please See Continuation Sheet

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST (imager, camera, barcode, tag, label, identifier, inventory, tracking)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X — Y	US 5,698,833 A (SKINGER) 16 December 1997, Figs. 1-3B; Abstract; col. 8, line 12 to col. 10, line 17.	1,3-5,14,16,20,21,23-25,33,34,36,40,41,44,47-51,57,59 ----- 2,12,22,32,58
Y	US 6,142,375 A (BELKA et al) 07 November 2000, Figs. 1-2; Abstract; col. 3, lines 57-68	12,32
Y	US 6,286,763 B1 (REYNOLDS et al) 11 September 2001, Figs. 1-3 and 6-7; col. 5, lines 28-46; col. 7, line 41 to col. 8, line 8; col. 8, line 61 to col. 9, line 17.	2,22,58
A,P	US 6,342,830 B1 (WANT et al) 29 January 2002, Fig. 1 and the Abstract.	67-86

☐

Further documents are listed in the continuation of Box C.

☐

See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

18 May 2003 (18.05.2003)

Date of mailing of the international search report

05 NOV 2003

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (703)305-3230

Authorized officer

Thomas J. Mullen, Jr.

Telephone No. 703-305-3900

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL03/00045

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☒ Claim Nos.: 52-56,60-66,72-76,80-86
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

PCT/IL03/00045

Continuation of B. FIELDS SEARCHED Item 1:

348/169,195,161,96,86,91,94; 235/385,469,494,487,454,462.01,462.03,462.04,462.11,462.41;
340/5.92,572.1,572.4,521,522,691.6,573.1; 705/22,28; 250/555,559.07,559.08; 382/181,224,100,141